

## Solution Recipe: Increase Data Protection Using Intel® vPro™ Technology





## Preface

Intel has developed a series of unique Solution Recipes designed for channel members interested in providing complete solutions to their customers, backed by top-quality technology and support. A solution recipe describes how to combine Intel®-based ingredients to create new technology solutions for common business challenges.

This recipe discusses new data protection solutions that take advantage of capabilities built into Intel® vPro™ technology. With Intel vPro technology, you are able to offer your customers a variety of solutions for safeguarding their business-critical data. When you are ready to deploy this recipe, please refer to the related deployment guide, which includes step-by-step instructions. You can find the guide by visiting:

[www.intel.com/go/reseller/vpro](http://www.intel.com/go/reseller/vpro) or [www.intel.com/go/solutions](http://www.intel.com/go/solutions)

### Common Notations and Terms

**Intel® Matrix Storage Technology:** Intel innovation included with Intel vPro technology that protects against hardware failures such as hard drive crashes by mirroring data to a second hard drive.

**Redundant Array of Independent Disks (RAID):** A storage system that uses multiple independent hard drives to share and replicate data among the drives. RAID storage comes in several levels and provides higher data integrity, fault tolerance, and data retrieval speeds than does single-drive storage.

**Intel® Matrix Storage Manager:** RAID management utility included with Intel Matrix Storage Technology that simplifies setup of hard drive array and allows easy management of backup solutions.

**Network-Attached Storage (NAS):** A storage device connected directly to a computer network rather than to an individual computer, allowing multiple computers to access and share the same storage space at once.

**Universal Serial Bus (USB):** An interface standard that allows peripheral devices to communicate with a computer.

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## Meeting New Market Opportunities

Businesses today are watching their disk drives and storage devices fill up faster than ever with bigger presentations, media-rich e-mail attachments, files kept for regulatory compliance, data warehouses, and customer data. Organizations are not only running out of room for data, but their data may be scattered across multiple machines with little protection. When a critical file is lost, businesses can spend hours locating backups or recreating data.

Most of your customers are eagerly looking for easier, more effective data protection solutions that will help them sleep better at night. Intel has made it easier than ever for you to provide turnkey backup and restore solutions using Intel vPro technology with Intel Matrix Storage Technology. Intel Matrix Storage Technology brings RAID-level protection to the desktop for the first time. Long available in server environments, RAID storage delivers extra levels of protection and higher data retrieval speeds.

Business PCs with Intel vPro technology have the processing power needed to copy large volumes of data to a second hard drive or to an external device while the user is working on other applications in the foreground. With data automatically backed up at regular intervals, the business can keep moving even if hardware or software failures damage one or more PCs.

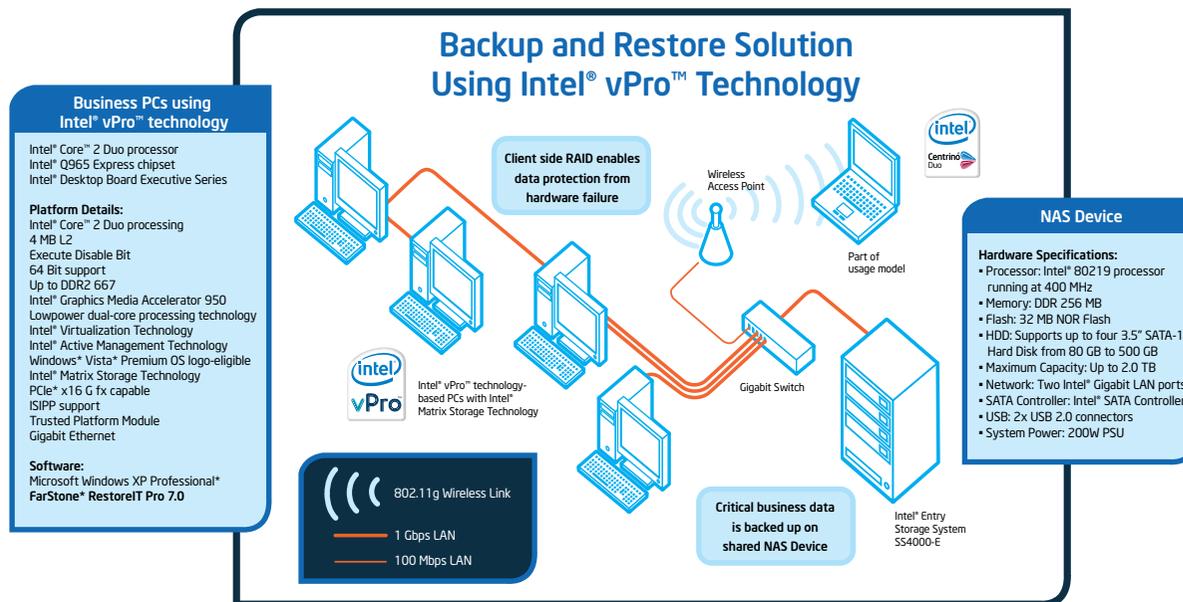
Data protection solutions based on Intel vPro technology provide you with new tools that help you take advantage of the growing demand for better, easier data backup. Your customers need guidance in sorting through complex technology options and putting together solutions tailored to their businesses. You can provide them with a complete solution that meets real business needs, while at the same time fueling your own business growth.

## Solution Overview

The data protection solutions offered by Intel consist of desktop PCs based on Intel vPro technology with Intel Matrix Storage Technology, running the Microsoft Windows XP\* operating system and the FarStone RestoreIT\* Pro7 personal disaster recovery software. Intel Matrix Storage Technology protects against hardware failures such as hard drive crashes by mirroring data to a second hard drive. Intel® Matrix Storage Manager, software that comes with Intel Matrix Storage Technology, is a RAID management utility that allows you to easily and flexibly set up your customer's hard disk drive array and allows your customer to more easily manage their backup solution.

Intel vPro technology-based PCs have the dual-core processing performance needed to perform compute-intensive real-time or on-demand data backup in the background, while workers are simultaneously running many other demanding applications. PCs with Intel vPro technology are based on the new Intel® Core™2 Duo processor, which is designed to deliver not only outstanding performance but energy efficiency and reliability.

You can configure the FarStone RestoreIT Pro software to back up files to a second hard drive in the PC, to an external device, or to both, for maximum data protection. Of course, if your customer already owns servers, you can back up data to a file server. FarStone RestoreIT is included free of charge on Intel® Desktop Boards supporting Intel vPro technology.



## Solution Benefits

### Benefits for Intel® Channel Partner Program Members

#### New Revenue Opportunities

Data protection solutions utilizing Intel vPro technology open up a new revenue stream and allow you to offer more complete solutions that solve real business problems for your customers. In addition to selling PCs, you are able to sell additional hard drives, network-attached storage (NAS) devices, file servers, USB storage devices, backup software, and setup and administration services. For example, you can help customers configure RAID arrays on their desktops PCs and NAS devices.

Most important, your automated backup solution can help keep your customer's data safer, reducing potential downtime caused by lost or corrupted files. By providing this solution you can offer peace of mind to your customers and help inspire their loyalty.

#### Ease of Use

Using Intel Matrix Storage Manager, FarStone RestoreIT, and external backup devices, you can quickly and cost-effectively set up backup and restore solutions without a huge time investment, making your staff more productive.





## Benefits for Your Customers

### Better Protection Against Data Loss

An automated backup solution gives customers better protection for their business-critical data, allowing them to focus on the business at hand rather than worrying about possible data loss.

### RAID-level Desktop Storage

RAID-level storage systems have been commonplace on servers for years, but Intel vPro technology pioneers RAID-level storage on the desktop. For companies without secure server or network-based storage systems, business-critical data resides on a collection of PC hard drives that are often backed up haphazardly, if at all. Intel vPro technology gives PC-based data a high level of protection for desktop data.

### Centralized Access to Vital Files

Files backed up to a NAS device, such as the Intel® Entry Storage System SS4000-E, are centrally accessible to everyone in the company (with the appropriate authorization), which improves data accessibility and worker productivity. You can also assign secure hard drive space to individual users for private backups. All data stored on the Intel Entry Storage System SS4000-E is RAID-protected from drive failure.

### Cost-effective Storage Scalability

Intel-based storage solutions give your customers cost-effective storage on demand—they can add more storage as they need it, simply by adding drives to their NAS device or adding hard drives to individual Intel vPro technology-based PCs that need RAID protection. This helps them grow their businesses with incremental capital outlays rather than requiring them to over-buy today in anticipation of tomorrow's demands.

### Flexible Backup Options

Your customers can back up entire hard drive contents or just critical files, to extend the life of their NAS device.

### Faster File Access

Intel Matrix Storage Technology speeds up file retrieval and loading times, especially important for customers using disk-intensive applications. For example, loading huge files into Adobe Photoshop\*, creating complex graphics, or transferring large images to CDs/DVDs can all be accomplished more quickly with assistance from Intel Matrix Storage Technology, improving worker productivity.



## Solution Recipe

### Desktop Components

#### Business PCs with Intel® vPro™ Technology

PCs with Intel vPro technology are recommended for creating all the backup solutions described in this recipe. Intel vPro technology provides maximum performance for business PCs as well as built-in security, power efficiency, and management technologies. Intel vPro technology delivers the following features to support real-time, background data backup:

- **Intel® Core™2 Duo processor.** Dual-core processing performance allows compute-intensive real-time data backup while also running multiple demanding business applications. Intel vPro technology uses the dual-core Intel® Core 2™ Duo processor, which is Intel's fastest desktop processor yet.
- **Intel® Matrix Storage Technology.** An integral part of Intel vPro technology, Intel Matrix Storage Technology protects against data loss caused by a hard drive failure, by mirroring data to a second hard drive. Should one drive fail, the user can continue using his or her PC using the mirrored data on the second drive.
- **Intel® Matrix Storage Manager.** This software utility, included with Intel Matrix Storage Technology, helps you manage your customer's RAID devices by providing detailed reports on individual storage devices. When setting up a customer's backup solution, Intel Matrix Storage Manager software allows you to manage a RAID drive configuration while users use their PCs during the process, again, improving worker productivity.

### FarStone RestoreIT\* Pro Personal Disaster Recovery Software

FarStone RestoreIT Pro is a personal disaster recovery utility that automatically backs up all files on a computer and allows you to quickly recover individual files or entire computer systems damaged by a virus, a bad software installation, an operating system crash, or human error. Since it loads before Microsoft Windows, FarStone RestoreIT will launch and restore a PC even when Microsoft Windows does not boot.

You can set FarStone RestoreIT to dynamically and continuously back up data on critical customer PCs or back up the entire PC contents at regular intervals—to an extra hard drive, a network drive, a USB device, or the Intel Entry Storage System SS4000-E NAS device. FarStone RestoreIT compresses the stored image, taking up only a small percentage of disk space on most systems, allowing more user backups on the NAS device.

If a file is damaged or lost, you can come to your customer's rescue by searching or browsing for files or folders in a Microsoft Windows-like directory and clicking to preview a file in the associated application.

FarStone RestoreIT is included free of charge on Intel Desktop Boards featuring Intel vPro technology.

### Microsoft Windows\* XP Operating System

Intel chose the Microsoft Windows XP operating system for this data protection solution to meet the needs of the majority of business users who already use Microsoft Windows. Again, the benefits are faster implementation, quicker user acceptance, and lower costs.

### Intel® Entry Storage System SS4000-E

The Intel Entry Storage System SS4000-E is an intelligent network storage solution for small- and mid-size businesses. Costing less than big file servers, the Intel Entry Storage System SS4000-E provides big-storage system capabilities including automatic backup, remote boot, and system recovery.

With a convenient Web interface, the Intel Entry Storage System SS4000-E provides security by limiting access to shared folders by user or group-level authentication. Complete and advanced data protection is provided through support for RAID levels 0, 1, 5, and 10.

#### Recommended Business Platform

<b>Extended Ingredient Brand</b>	Intel® vPro™ technology
<b>Processor</b>	Intel® Core™ 2 Duo processor
<b>Intel® Desktop Board Series</b>	Intel® Desktop Board Executive Series <i>Intel® Desktop Board DQ965WCE (pBTX)</i> <i>Intel® Desktop Board DQ965COE (uBTX)</i> <i>Intel® Desktop Board DQ965GFE (uATX)</i>
<b>Differentiators</b>	<ul style="list-style-type: none"><li>▪ Low Power Intel® Core™ 2 Duo Processing Technology</li><li>▪ Intel® Virtualization Technology</li><li>▪ Intel® Active Management Technology**</li><li>▪ Intel® Matrix Storage Technology</li><li>▪ PCIe* x16 Gfx capable</li><li>▪ Intel® Stable Image Platform Program Support</li><li>▪ Trusted Platform Module</li></ul>

\*\*Intel® Active Management Technology (Intel® AMT) requires the platform to have an Intel® AMT-enabled chipset, network hardware and software. The platform must also be connected to a power source and an active LAN port.

## Server Components

### Dual-Core Intel® Xeon® Processor-based Server(s)

Dual-Core Intel® Xeon® processor-based servers provide the computing power needed to offer a full data protection solution to your customers.

## Implementation Options

You can implement data protection solutions based on Intel products in different ways, depending on your customer's needs and budget. The three implementation options and their relative advantages are explained below.

**Desktop RAID backup.** For customers that need to back up small volumes of data, data on only one or a few PCs, or have budgetary constraints, you can configure a solution that backs up files onto a second PC hard drive. The advantages of this approach include:

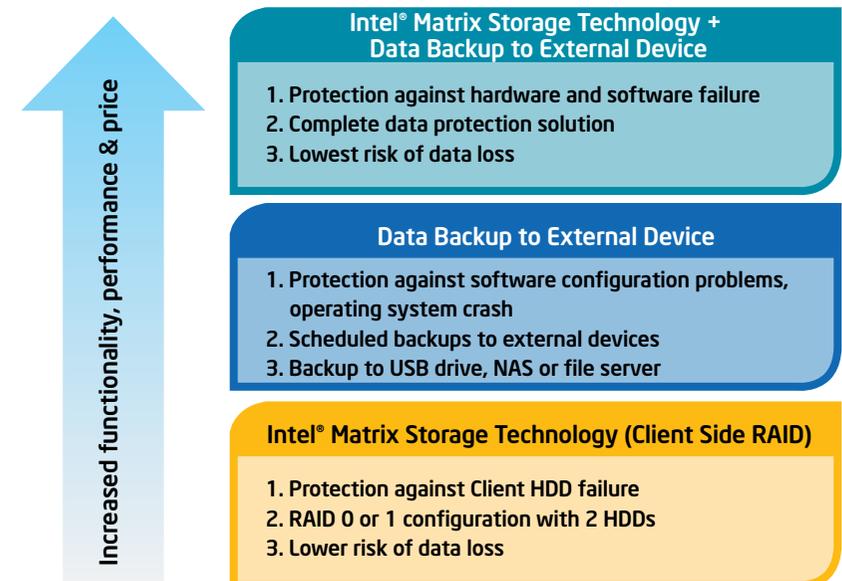
- Protection against PC hard drive failures
- RAID 0 or 1-level protection through Intel Matrix Storage Technology
- High-speed data retrieval for disk-intensive applications
- Lowest cost backup solution
- No need to purchase or manage external storage devices

**Backup to an external device.** Customers requiring higher levels of data protection, protection against hardware and software problems, more sophisticated backup scheduling, and shared access to stored files may want to use FarStone RestoreIT to back up their files to an external device such as an Intel Entry Storage System SS4000-E NAS device, a USB drive, or a Microsoft Windows file server. The advantages of backing up files to an external device include:

- Protection against PC hard drive failures as well as software configuration problems and operating system crashes
- Real-time dynamic backups or scheduled backups
- Greater data protection
- Centralized access to stored files

**Desktop RAID plus backup to an external device.** For customers requiring the highest level of data protection, implement a combination of the two approaches above—desktop RAID backup augmented by backup to an external device. The advantages include:

- Protection against PC hard drive failures as well as software configuration problems and operating system crashes
- Real-time dynamic backups or scheduled backups
- Backup to external device for greater protection
- Centralized access to stored files
- High-speed data retrieval for disk-intensive applications





## Design Considerations

Intel has chosen standard components for this solution to minimize deployment costs and also performed feature verification and high availability testing. However, before deploying this solution, you need to perform your own validation testing on specific configurations.

If you have a small business customer that cannot afford to add hard drives to all its desktops, recommend adding drives only to critical PCs such as accounting or customer database systems. All other PCs can be backed up nightly to an NAS.



## Solution Support

Intel has tested and verified the components described in this solution recipe. Please continue to use your existing Intel® Support Services (<http://www.intel.com/go/Channel/Support>) for information on Intel®-based hardware, including Intel® Processors, Intel® Desktop and Server Boards, and associated drivers.

For your convenience, Intel has worked with several independent software vendors, open source vendors, and application vendors to streamline technical support for this solution. For more information on the third-party hardware and software products, please download the Solution Deployment Guide ([www.intel.com/go/reseller/vpro](http://www.intel.com/go/reseller/vpro) or [www.intel.com/go/solutions](http://www.intel.com/go/solutions)) to obtain the specific list of vendors and contacts.

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